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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,522	04/30/2001	Tomoyuki Nakano	112857-221	5535
29175	7590	09/12/2005	EXAMINER	
BELL, BOYD & LLOYD, LLC			COLIN, CARL G	
P. O. BOX 1135			ART UNIT	PAPER NUMBER
CHICAGO, IL 60690-1135			2136	
DATE MAILED: 09/12/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/846,522	NAKANO ET AL.	
	Examiner	Art Unit	
	Carl Colin	2136	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 13 June 2005.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-23 is/are pending in the application.

 4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-23 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on 21 December 2004 is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ .
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/13/2005 has been entered.

Response to Arguments

2. In response to communications filed on 6/13/2005, applicant has amended claims 1, 5, 13, 14, 21, 22, and 23. The following claims 1-23 are presented for examination.

2.1 The amendments to the specification page 2, and to the drawing, filed on 12/21/2004 have been considered and the objection to the specification and to the drawing has been withdrawn.

2.2 Applicant's arguments, pages 8-13, filed on 6/13/2005, with respect to the rejection of claims 1-23 have been fully considered, but they are not persuasive. Applicant has amended the independent claims to claim that authentication information is exchanged by radio. However, applicant's disclosure on page 6, lines 19-27 merely recites a radio interface between the IC card (8) and the reading writing unit (9) for sending and receiving information to and from each other

by radio. The use of radio is only found a couple of times in Applicant's invention and clearly not a focus point of applicant's invention; (page 13, lines 18-22) even recites that the invention is not limited to use of radio between the IC card (8) and the reading writing unit (9) they may be physically connected; in addition, nowhere in the disclosure can be found use of radio by any other devices nor the authentication apparatus. The private key is never sent or received by radio (see applicant's disclosure p. 9, lines 20-27 and fig. 6). Therefore, amended claims 13, 14, 21, 22, and 23 are considered new matter. Amended claims 1 and 5 have not overcome the rejection as Applicant admits that Audebert discloses use of PCMCIA for exchanging information between the IC card and the card reader. Audebert discloses in addition to PCMCIA other interfaces such as infrared that meet the recitation of radio communication can be used for exchange of information. Audebert also discloses that private key can be exchanged between the microprocessor (3) and the IC card (column 21, lines 34-39) using external interface as described above (column 16, lines 3-8 and column 17, lines 26-40). In addition, the transaction illustrated in figure 9 that include exchange of secret between the card and the terminal module can be done using link interfaces (column 21, line 59 through column 22, line 12 and column 26, lines 38-65). Column 23, lines 26-50 in figure 10 embodiment illustrate downloading of application into the microcircuit card or a microprocessor that involves exchange of keys between a server and the microprocessor using external connection interface or infrared link. Therefore, Audebert clearly suggests the use of radio communication for exchanging keys. Claims 1-23 are still rejected in view of the same reference. Upon further consideration a new ground of rejection is made in view of Audebert under 35 USC 103(a).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3.1 Claims 13, 14, 21, 22, and 23 and the intervening claims are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant's disclosure fails to recite "sending the common key and the private key read from each user by radio" as recited in claim 13; "the holder for holding the common key and the private key including a radio function for sending information read from the holder by radio and writing information to the holder by radio" as recited in claim 14; "the holding means including a radio function for sending information read from the holding means by radio and writing information to the holding means by radio" as recited in claim 21; "sending the common key and the private key from the data holding medium to the authentication apparatus by radio and writing information received from the authentication apparatus to the data holding medium by radio" as recited in claim 22; the data holding medium including a radio function for sending information read from the data holding medium to the authentication apparatus by radio, and writing information received from the

authentication apparatus to the data holding medium by radio as recited in claim 23. The specification, on the other hand, merely recites a radio interface between the IC card (8) and the reading writing unit (9) for sending and receiving information to and from each other by radio (page 13, lines 18-22 and page 6, lines 19-27). Nowhere the disclosure describes an authentication apparatus with holding means for radio communication. The authentication apparatus never sends or receives private key by radio (page 9, lines 20-27) and the private key is never sent or received by radio.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.1 **Claims 1-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,694,436 to **Audebert**.

4.2 **As per claims 1, 2, 4, 6-8, 10-18, and 20, Audebert** substantially discloses a user authentication system, comprising: an integrated circuit card that meets the recitation of a data holding medium for holding a common key unique to a user, used in a common-key encryption method, for example (see column 21, lines 17-21); an authentication apparatus for holding the common key used in the common key encryption method and a private key used in a public-key encryption method, each unique to the user, for example (see column 21, line 45 through column 22, line 20); and discloses a PC or server (column 21, lines 10-16) that meets the recitation of an information processing apparatus and further discloses an information processing apparatus connected to the authentication apparatus in an always-communicable manner and provided with a function for performing authentication by the public-key encryption method, for example (see column 24, lines 45-50); wherein the authentication apparatus performs authentication by using the common key held by the data holding medium and the common key held by the authentication apparatus, in response to a user authentication request sent from the information processing apparatus, and, only when the user has been authenticated, performs processing for making the information processing apparatus authenticate the user by using the private key corresponding to the user, for example (see column 21, line 45 through column 22, line 20).

Audebert discloses that the information processing apparatus can be performed by either the user terminal or the server authentication, and further discloses that the invention is not limited to the type of cryptographic method used. Even though one embodiment uses public key, common key can also be used for high speed processing, for example (see column 9, lines 8-25 and column 7, lines 60-67). (See also column 23, line 25 through column 24, line 10). **Audebert** discloses a data holding medium including a radio function (column 14, lines 49-55). **Audebert**

discloses downloading an application from a server to a microprocessor that involves authentication using shared secret between a server and a microprocessor or integrated circuit card through infrared link that meets the recitation of exchanging key by radio (column 23, lines 26-49). **Audebert** also discloses, a transaction between a card (data holding medium) and a terminal module (authentication apparatus) illustrated in figure 9 column 21, line 39 through column 22, line 20 that include exchange of common key and private key between them these exchanges can be done using PCMCIA and infrared communication interfaces (column 26, lines 38-65). **Audebert** also discloses that private key can be exchanged between the microprocessor (3) and the IC card (column 21, lines 34-39) using PCMCIA and infrared communication interfaces (column 16, lines 3-8 and column 17, lines 26-40). PCMCIA cards are well known in the art for radio communication between devices as well as Bluetooth is well known for its encryption and safe secure communications in wireless security. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use radio communication for exchanging key information between the authentication apparatus and the data holding medium during authentication as **Audebert** suggests use of PCMCIA and infrared communication interfaces as a means for exchange of keys (column 16, lines 3-8 and column 17, lines 26-40) security will not be affected because security can be further enhanced by encrypting the keys and secure authentication is also provided between the devices (column 24, lines 55-67 and column 23, lines 26-49). This modification would have been obvious because one skilled in the art would have been motivated to use radio communication so the invention is not limited only to modem connection as suggested by **Audebert** (column 26, lines 38-65) and still provide security by means of authentication and encryption (column 26, lines 38-67).

Claim 5 discloses the same limitation as the rejected claim 1 above. Therefore claim 5 is rejected on the same rationale as the rejection of claim 1 above.

As per claims 3, 9, and 19, Audebert discloses the limitation of wherein the information processing apparatus is a mobile communication apparatus, for example (see column 27, lines 5-18).

As per claim 21, Audebert substantially discloses a user authentication system, wherein a data holding medium for holding a common key unique to a user, used in a common key encryption method, comprising: a server for sending an authentication request to perform a service to the user (column 22, lines 21-28; column 21, lines 5-15 and lines 40-45); and a terminal module that meets the recitation of an authentication apparatus (column 21, lines 22-27) comprising, a holding means for holding the common key used in a common-key encryption method for authentication between a data holding medium held by the user and the authentication apparatus, said holding means holding a private key used in a public-key encryption method to the authentication between the data holding medium and the server (column 21, line 45 through column 22, line 20); and means for authenticating the data holding medium by using the common key for the user held by the holding means and a common key used in the common-key encryption method for the user held by the data holding medium in response to the authentication request sent from the server, said authenticating means performing a processing for authentication between the data holding medium and the server by using the

private key corresponding to the user when the data holding medium has been authenticated by using the common keys (column 21, line 45 through column 22, line 20). **Audebert** also discloses another embodiment that also discloses the claimed features (see column 23, line 25 through column 24, line 10). **Audebert** substantially discloses the amended claim limitation as discussed in the rejection of claim 1 above and therefore is also rejected on the same rationale as the rejection of claim 1.

Claims 22 and 23 disclose similar limitations to the rejected claim 21 and are therefore rejected on the same rationale as the rejection of claim 21.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carl Colin whose telephone number is 571-272-3862. The examiner can normally be reached on Monday through Thursday, 8:00-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

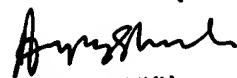
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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Carl Colin

Patent Examiner

September 2, 2005



AYAZ SHEIKH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100